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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,896	03/24/2004	Miyoji Matoba	44471/298937	5349

23370 7590 10/19/2005

JOHN S. PRATT, ESQ
KILPATRICK STOCKTON, LLP
1100 PEACHTREE STREET
ATLANTA, GA 30309

EXAMINER

LU, JIPING

ART UNIT PAPER NUMBER

3749

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,896

Applicant(s)

MATOBA ET AL.

Examiner

Jiping Lu

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5 and 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species II, Fig. 7, claims 1-2, 4-5, 7-12 in the reply filed on 7/27/2005 is acknowledged.
2. Claims 3, 6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/27/2005.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2, 4-5, 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Gordon (U. S. Pat. 5,370,525).

Gordon shows a device and method for burning emulsion fuel comprising an atomizer 3 for atomizing emulsion fuel, a chamber 27 in which the atomized fuel is subjected to electromagnetic wave heating, a microwave generator 21 and a wave guide (not numbered, see Fig. 1, at 21) which are arranged same as claimed. Gordon also shows a system for burning emulsion fuel provided with the above device and comprising a fuel supply system 29.

5. Claims 1-2, 4-5, 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by DeFreitas et al. (U. S. Pat. 5,673,554, 5,673,554 or 5,845,480).

Patents to DeFreitas et al. show a device and method for burning emulsion fuel comprising an atomizer 16 for atomizing emulsion fuel, a chamber 14 in which the atomized fuel is subjected to electromagnetic wave heating, a microwave generator 44 and a wave guide 46 which are arranged same as claimed. DeFreitas et al. also show a system for burning emulsion fuel provided with the above device and comprising a fuel supply system 34. .

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon (U. S. Pat. 5,370,525) in view of Kuroki et al. (JP410185183A) and Renzi (U. S. Pat. 3,227,429).

The system of Gordon as above includes all that is recited in claims 9-12 except for a mixer with plates having holes on its opposite face arranged in a honeycomb pattern for mixing water and fuel. Kuroki et al. teach a fuel supply system with a mixer 3 for mixing water 4 and fuel 1. Renzi teaches in Figs. 7-14 a mixer with at least two pairs of the first and second plates 30-35 parallel to each other. Each of the plates provided on its opposite face with a plurality of holes arranged in a honeycomb pattern. The plates 30-35 of the mixer are mated in a manner that the holes on the first plate are off to the side of the holes on the second plate (see Fig. 8, 11). The mixer of Renzi is capable of mixing fuel and water. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the fuel supply system of Gordon with a mixer as taught by Kuroki et al. in order to mix water and fuel and to obtain an emulsion fuel. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the fuel supply system of Gordon to include a mixer of Renzi in order to improve the mixing efficiency.

9. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeFreitas et al. (U. S. Pat. 5,673,554, 5,673,554 or 5,845,480) in view of Kuroki et al. (JP410185183A) and Renzi (U. S. Pat. 3,227,429).

The system of DeFreitas et al. as above includes all that is recited in claims 9-12 except for a mixer with plates having holes on its opposite face arranged in a honeycomb pattern for mixing water and fuel. Kuroki et al. teach a fuel supply system with a mixer 3 for mixing water 4 and fuel 1. Renzi teaches in Figs. 7-14 a mixer with at least two pairs of the first and second plates 30-35 parallel to each other. Each of the plates provided on its opposite face with a plurality of holes arranged in a honeycomb pattern. The plates 30-35 of the mixer are mated in a

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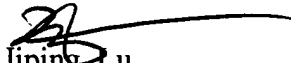
manner that the holes on the first plate are off to the side of the holes on the second plate (see Fig. 8, 11). The mixer of Renzi is capable of mixing fuel and water. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the fuel supply system of DeFreitas et al. with a mixer as taught by Kuroki et al. in order to mix water and fuel and to obtain an emulsion fuel. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the fuel supply system of DeFreitas et al. to include a mixer of Renzi in order to improve the mixing efficiency.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, EHUD GARTENBERG can be reached on 571 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jiping Lu
Primary Examiner
Art Unit 3749

J. L.